.b2682801 (E)

CANADA

OPEN SKIES
IN THE
MIDDLE EAST

MARCH 1993

CANADA

OPEN SKIES
IN THE
MIDDLE EAST

MARCH 1993

OPEN SKIES IN THE MIDDLE EAST

With the creation of the multilateral peace process much attention has been focused on the question of stability in the Middle East region. In general terms, it is reasonable to suppose that a lasting peace will not be achieved unless agreed comprehensive security relationships are eventually negotiated. This should lead to a diminution of armed forces in the region, as well as a reduction in readiness, along with appropriate verification measures. A useful first step might well consist of transparency measures designed to increase the confidence of the parties in such a way that they are able to consider more ambitious steps.

Such a process unfolded in Europe during the 1970's and 80's with successive agreements aimed at increasing the level of confidence in the region, leading to more concrete arms control measures. Of course, it would be folly to suppose that mechanisms and procedures designed to work in one setting could be easily transported to another. Each region is unique, and has its own needs. But it does seem reasonable to suppose that any peace process could begin with small steps, and that the most useful of these would be measures aimed at increasing the level of transparency in a given area.

This paper will examine the potential for the creation of an Open Skies regime in the Middle East. The paper will begin with an assessment of the recent Open Skies Treaty which will identify the major issues of that negotiation and speculate as to how they might apply in the Middle Eastern context. An attempt to determine whether an Open Skies regime might be acceptable in the region, and what type of regime that might be, will follow. An annex to the paper will review the experience which has been gained by various Middle Eastern peacekeeping forces which have used aerial reconnaissance techniques for confidence-building over the years. A second Annex will explore the issue of the costs of establishing an Open Skies regime. A final Annex will provide a brief bibliography on the subject.

OPEN SKIES: LESSONS OF THE RECENT NEGOTIATIONS[1]

The recently completed Open Skies negotiations began in Ottawa in February of 1990 during a three week conference which included the North Atlantic Treaty Organization (NATO) states, and those of what was then the Warsaw Treaty Organization (WTO). After a month of reflection, the parties gathered again in Budapest to continue their work. It had

---

[1] For more on the recently completed negotiations see Jones, P.L. "Open Skies: A New Era in Transparency" <u>Arms Control Today</u> vol. 22, no. 4, May, 1992.

been hoped that they would be able to finalize a Treaty for signature by their Ministers, but it quickly became apparent that this would be impossible. The Budapest Conference ended in mid-May of 1990. After a lengthy hiatus, during which the Conventional armed Forces in Europe (CFE) Treaty was signed, the WTO began its process of disbanding and the NATO nations undertook a review of their positions, negotiations resumed in Vienna in September of 1991. The Treaty was signed in Helsinki on March 24, 1992.

The development of the new NATO position in early 1991 was noteworthy in that it provided a coherent intellectual and political justification for an Open Skies regime which was structured in such a way as to enable a set of technical criteria to evolve which were both consistent and acceptable to all. At the outset, the Open Skies negotiations suffered from the lack of such criteria. Put another way, when the initiative was launched the political goals of the Open Skies negotiations were not set out sufficiently clearly to allow the negotiators to draw up a set of agreed criteria from which to design the regime.

Before discussing the specific problems of the Open Skies negotiations, it is important to fully understand this point. When the Open Skies negotiations were initially proposed by President Bush, on May 12, 1989, the goals of the negotiation were expressed in very general terms as being the increase of transparency for the enhancement of confidence. The lack of firm political guidelines as to how much transparency would be required to increase confidence by a desired and useful amount bedeviled the negotiators. How many flights are required on a yearly basis to increase confidence, for example? How intrusive should the sensors be? Should the same types of sensors be used by everyone? Could the data be shared? Who should supply the aircraft and the flight crew?

Each of these five specific questions was related to one basic point: the need for a politically agreed goal for the negotiations. The Vienna negotiations had an answer to this question. This answer called for the creation of a regime which will enable its participants to detect preparations for a surprise attack under all weather conditions, 24 hours a day. In practical terms this meant the ability to determine the difference between a tank and a truck. Such a clear statement allowed the negotiators to design the regime.

The specific issues which then arose in the negotiations were, in no particular order: the question of what sensors could be used and what their capabilities should be; the question of who could supply the aircraft during overflights; the question of data-sharing; the question of quotas; and the

question of territorial restrictions. Though these issues were inter-related, the following paragraphs will analyze them on a case by case basis.

SENSORS

At the beginning of the Open Skies negotiations the West proposed that each nation be allowed to use whatever sensors it wanted. The only practical restrictions were to be that each aircraft would be required to submit to an "intrusive, but non-destructive" inspection prior to its overflight, and that host country monitors would be on the aircraft during the overflight. Such measures would have meant that the most advanced and secret technologies would probably not have been used in such an Open Skies regime for fear of compromising them.

Not surprisingly, the Warsaw Treaty Organization states objected to this approach, arguing that many of the sensor types which the West wanted to include were far too sophisticated and had no relevance to confidence-building as they defined it. Clearly, the concern was over the danger of what they viewed as indiscriminate, and unequal information-gathering. It soon became the position of the non-Soviet WTO states that they would accept whatever sensors the West wished to use, so long as the sensors were available to all.

The NATO position which was developed during the Budapest to Vienna hiatus incorporated these concerns. Once they had accepted the restriction of the purpose of the overflights to the search for signs of an impending attack, the NATO countries were prepared to impose limits upon the types and capabilities of sensors which were necessary in the regime. As mentioned earlier, what was required was the ability to detect a formation of tanks, or other heavy military equipment in all weather, 24 hours a day. This means that it is necessary to be able to differentiate between a tank and a truck, though it is not necessary to determine exactly what type of tank or truck is involved. The sensors required to perform this role were available to all regime members.

The exact types and capabilities of the sensors to be used in the Open Skies regime are as follows: optical, panoramic and framing cameras with a ground resolution of 30 centimetres; video cameras with real time display and a resolution of 30 centimetres; infra-red line-scanning devices with a resolution of 50 centimetres; and sideways looking

synthetic aperture radar with a resolution of 3 metres.[2]
The Treaty also contains provisions for the periodic upgrade
of the existing sensors, by mutual agreement, and for the
introduction of new types of sensors.

In terms of applying an Open Skies regime in another
area, the current negotiations over sensors have raised two
general points which would have to be addressed if it were
decided to include sensors in the regime. First, the
participants must have a general idea of what they are
looking for with these sensors. If widely differing views
exist with regard to the purpose of the overflights, it will
be very difficult to agree on a set of acceptable sensors or
their resolution capabilities. Second, it will be necessary
to ensure that any sensors which are selected for use in a
regional Open Skies regime are equally available to all
participants.

AIRCRAFT OWNERSHIP

A closely related issue to that of the types and
capabilities of the sensors to be used is the question of who
will own and operate the aircraft engaged in Open Skies
flights over a given country. The issue was one of the most
difficult in the recently completed negotiations. The
original NATO position held that each country would use its
own aircraft when overflying another regime participant. The
Soviets countered with the argument that this would expose
them to the danger of hidden sensors, which they worried they
would not be able to detect under the aircraft inspection
rules proposed by NATO. Accordingly, the Soviets proposed
that a jointly funded and operated pool of aircraft be
established to undertake the overflights on behalf of all
participants. The NATO countries responded with the concern
that such a pool would be expensive to establish and operate.

The Soviets soon modified their initial stance with the
proposal that the country being overflown have the right to
choose whether the country doing the overflight would bring
its own aircraft, or use one supplied by the host. In
practice, the Soviets conceded, they would always choose to
supply the aircraft. In the final analysis, they would not
accept a regime which would allow another country to bring
its own aircraft to the USSR, with no right of refusal for
the host. After the dissolution of the USSR, the Russian
Federation adopted this position also.

---

[2] See Treaty on Open Skies, Article IV, paras. 1, 2. Some
disagreement exists as to how the resolution capability of the
agreed sensors would be measured. A technical working group has
been addressing this question since the end of the negotiations.

As NATO's requirement for a sophisticated sensor suite lessened, however, so too did its requirement to control the aircraft. In the end, it was decided to allow the host nation to have the final say as to whose aircraft would be used for overflights of itself. An important component of this stand, however, was the proviso that a nation could not prevent an overflight from taking place within the required time period for the reason that it did not have an aircraft ready to host such a flight, but would not accept a foreign aircraft.

The aircraft ownership issue in the negotiations demonstrated that the participants in any future negotiation will have to examine two questions. First, are their fears of illegal, hidden sensors so great that they are unwilling to allow foreign aircraft over their soil? Second, are they willing to accept the administrative difficulties, not to mention the cost, of establishing a jointly run and funded pool of aircraft? Of course, this pool could be established in a number of ways, ranging from an organization acting on behalf of the participants, to a trusted third party, to a commercial firm undertaking the flights on a contract basis. Each of these options has been exercised in the Middle-East in connection with previous peacekeeping or confidence-building measures (see Annex A).

DATA-SHARING

The initial NATO position on data-sharing was that it should be up to each participant to determine the extent to which it wished to share the data, and with whom. At the same time, the Allies made internal arrangements to share the data amongst themselves using established Alliance procedures. The Soviets, as part of their pool concept, argued that the data should be processed by the central agency which would run the pool, and made available to all participants in the regime.

As the negotiations moved towards agreed sensor categories and capabilities, which would be available to all, the foundation for the resolution of this issue developed. Once it was agreed that the sensors would be equal, it became possible to envisage a data-sharing arrangement. The final Treaty contains a data-sharing provision which stipulates that first generation duplicates of the raw data from any overflight will be available to any other regime participant.[3]

---

[3] See Treaty, op cit. Article IX, Section IV. Certain cost questions relating to the data-sharing issue have yet to be agreed.

In terms of the possible impact of this issue upon other Open Skies negotiations, much will depend on the nature of the regime being sought. The way in which the parties resolve the related questions of aircraft ownership and sensor quality will also have a substantial impact. If the parties to any regional agreement elect to establish an organization or to ask a third party to perform the flights on their behalf, for example, they will have to decide if that organization is to also process the data, and to make arrangements for it to be shared (these questions will be discussed in greater detail in the next section). Generally speaking, the experience of the recent negotiations would seem to indicate that an Open Skies regime which is devoted to confidence-building, and to warning against large-scale military activities which might be threats, is amenable to some form of data-sharing.

QUOTAS

The question of the quota of overflights which each participant in the regime has to bear was one of the most complex of the recent negotiation. Much of this complexity was the result of political factors which were unique to Europe when the negotiations began in early 1990. The most important of these was the dissolution of the Warsaw Treaty Organization as an alliance.

This dissolution meant that the bloc-to-bloc approach to deciding upon quotas could not be used. Such an approach would have assigned each nation a passive quota of overflights, stipulated that nations within the same group could not overfly each other (to prevent them using up each other's passive quota) and left it to the nations of the other group to decide amongst themselves who would overfly whom. This approach was used in the Stockholm Document of 1986. It soon became clear, however, that, with the dissolution of the WTO, this approach no longer reflected the reality of the changing security environment.

The difficulty which the negotiators had in determining how many overflights each nation would be subjected to on a yearly basis will also be relevant to other regions. Initially, the Western states proposed a large number of overflights. In the end, a compromise was struck involving Russia's acceptance of substantially more flights than the USSR had proposed, but far less than the NATO countries had originally asked for. The compromise was made possible largely as a result of the clear acceptance of Open Skies as a confidence-building regime.

In terms of other regions in which Open Skies might be applied, the participants to future negotiations will have to

determine how many overflights are needed to fulfil the goals which they select for their regime. If these goals are relatively simple, such as providing some warning of large-scale military activity, the number of flights might be relatively small. In this case, some measure of how long it would take in the region to prepare a large military force for action would be required, and each state would have to be prepared to submit to a number of overflights which provided for a least one overflight within each of those periods. If the goals were more ambitious, a greater number of flights would be required.

TERRITORIAL RESTRICTIONS

Like the quota issue, this question also required a high-level political decision as to what type of regime was sought before it could be resolved. Once the parties had accepted confidence-building as the purpose of the regime, and had agreed to a less capable sensor suite than originally sought, it was possible to agree to overflights without territorial restrictions. As a result, the Open Skies Treaty stipulates that no areas of the overflown country may be held off limits for security reasons.[4]

OPEN SKIES IN THE MIDDLE EAST: CONSIDERATIONS ON ESTABLISHING A REGIME.

The idea that an Open Skies regime might be established in the Middle East has recently been broached by at least three writers in respected arms control journals.[5] A natural tendency for any study of an emerging security regime in a given region is to contrast the outline of that regime with the situation in other regions where a successful process is underway. Most often, the European experience is cited in this regard. Though such comparison is useful, it must be recognized that the European security situation is quite different to that in the Middle East. By the 1970's, for example, Europe's borders were largely recognized by all

---

[4] See the Treaty, op cit, Article VI, Section II. Some territorial restrictions are permitted for flight safety reasons in accordance with civilian flight safety procedures. The overflown state is required to open these areas to the maximum extent safely possible, however.

[5] See Goodby, J.E., "Transparency in the Middle East" in Arms Control Today May, 1991, Leonard, J., "Steps Toward a Middle East Free of Nuclear Weapons" Arms Control Today April, 1991, and Smithson, A. E., "Open Skies Ready for Takeoff" The Bulletin of the Atomic Scientists, vol. 48, no. 1, January/February 1992.

of the continent's inhabitants. Moreover, the existence of
two relatively coherent security organizations, each headed
by a superpower which had come to the recognition that
conflict between them would serve no purpose, lent an air of
stability to the security structure of the continent. In
this atmosphere, it was possible to explore relatively modest
confidence-building ideas. Over time, these ideas could be
expanded and built upon.

At the present time, this tradition of confidence
building does not exist in the Middle East. Nevertheless,
the countries of the region have been able to work together
to increase stability in the area, when it has suited them to
do so. The most wide-spread example of this type of activity
is, of course, peacekeeping, and, most importantly for this
paper, in the application of aerial monitoring to
peacekeeping tasks (see Annex A).

The negotiations in the European region emphasized an
Open Skies regime which recognizes the ability of individual
members to perform the overflights themselves. This reliance
on individual nations to permit others to overfly themselves
may not be desirable or possible in an Open Skies regime in
the Middle East, at least not for the initial period of the
regime's existence. Other concepts may be required.

Specifically, it may be necessary to establish a central
organization to undertake the overflights. This step would
avoid the possibility of overflights using aircraft belonging
to nations whose relations remain strained, or, indeed, who
do not even recognize each other's existence. This approach
is the one used in every other instance of aerial inspections
in the Middle East. In every case, either the United Nations
(UN) or another group, such as the Sinai Field Mission (SFM),
has been entrusted with the overflight role (see Annex A).
The overflight role could also be entrusted to a third
country, such as was the case with the overflights conducted
by the SFM on behalf of the Israelis and the Egyptians, or
even to a commercial firm.

Even though this approach would remove the problems
associated with individual states overflying each other, it
will be noted that the international agency would still be
subject to requests that it overfly any regime member on
behalf of another member. In other words, each participant
would be able to request overflights of every other
participant. This may not prove either desirable or
acceptable. It may thus be necessary to design a regime
within which not every member has the right to request an
overflight of every other member. Such a regime could have
the characteristics of a series of interlocking bilateral
overflight rights. Alternatively, if it were decided that an

international organization were to be established to perform
the overflights, the organization would simply be instructed
by the Parties not to undertake overflights of certain
countries on behalf of certain others.

Such an approach might be necessary in that it would
recognize the fact that there are several ongoing disputes in
the region. It may thus not be possible, or even desirable
to create a regime in which each nation has the right to
request overflights of every other nation in the region. The
creation of a central organization which can undertake only
those overflights which are agreed seems a reasonable
approach to this problem.

Of course, an Open Skies regime in the region may only
be required to assist in the development of a new
relationship between certain countries. It may be, for
example, that only a limited number of countries would want
an Open Skies regime. In this case, only certain countries
in the region would be involved, and the questions of who
would be subject to overflights from whom would be
correspondingly simplified.

Turning to the question of sensors, the terrain,
vegetation and weather of the region would make aerial
observation particularly useful and effective. Indeed, the
effectiveness of aerial observation might be such that it may
be necessary in the first instance to forego the use of any
sensors, and rely purely on human observation, possibly
involving passengers from the observing and the observed
state aboard the aircraft. This approach would follow the
pattern established by the majority of UN aerial observation
missions.

If sensors are used, it seems clear that an agreed
standard of resolution will be required, and that such a
standard will have to be capable of permitting the detection
of potentially dangerous military build-ups, without
endangering sensitive sites to a great extent. In the final
analysis, a political decision as to how much information
could be released in the name of confidence-building would be
required. Obviously, the operational component of the regime
would have to be structured in such a way as to ensure that
the agreed sensor resolution was not exceeded. In
particular, the altitude at which the aircraft was allowed to
fly would depend upon the resolution of the sensors in use at
the time. This is the case in the current Open Skies Treaty.

Should fears of too great an exposure of national
secrets remain, despite efforts to alleviate them by adopting
sensors of lower resolution capability than are available, it
might be possible to have the organization performing the

overflights act as a censor. In this case, the organization would be empowered only to share certain results of its overflights, probably only those which indicated the potential for a threatening action on the part of one of the parties. In this case, the organization performing the overflights would have to be trusted implicitly by all of the parties to the treaty. Though perhaps slightly unusual, this type of arrangement is not beyond the bounds of imagination. The United States has already played this role in connection with the Sinai Field Mission arrangements, for example (see Annex A).

Another method of protecting sensitive sites might be to restrict where Open Skies aircraft could fly during their overflights. While this would be effective, the danger exists of the parties attempting to restrict overflights to such a great extent that they could be meaningless. Moreover, given the size of several countries in the region it would not take many such restrictions to render a large percentage of each country unavailable to overflights. Finally, the entire concept of restricted areas seems to fly in the face of the basic concept of Open Skies.

Of course, the procedure for undertaking overflights could be made such that a period of time would elapse between when the overflight was requested and when it was performed. This is the case in the recently concluded Treaty. The timeline in the Treaty is as follows: the Party requesting an overflight must inform the Party to be overflown of its intention 72 hours before the arrival of its aircraft at a designated point of entry; the Party to be overflown must acknowledge receipt within 24 hours and state whether it will allow the overflying country to bring its aircraft or will exercise its right to provide the aircraft; after arrival, the aircraft and sensors may be inspected, and the proposed flight plan is handed to the host country (this must be done no later than 24 hours before the overflight is scheduled to commence); once the overflight plan is agreed, and the 24 hour period has elapsed, the flight will commence; the observing country will depart within 24 hours following the flight, and arrangements for data-sharing must be completed within this period; the entire time in-country will not exceed 96 hours. Attempts have been made to ensure that all of these time periods are flexible, however. Virtually any of them can be shortened by mutual consent.[6]

As a general rule, the greater the period of pre-flight notification, the less intrusive the regime would be, and the less effective each overflight in terms of its ability to

---

[6] See the Treaty, Article VI.

monitor events of possible interest. Nevertheless, the rules whereby overflights are undertaken in a Middle Eastern regime would have to be very precise. The experience gained in the region would seem to indicate that unauthorized excursions into the airspace of another country are treated as not merely inconveniences, but as serious threats to national security.

All of these methods would likely be used in combination to design overflight procedures which were neither too restrictive nor too intrusive. In the final analysis, the determination of appropriate procedures would rest upon political decisions as to the nature of the regime and the extent to which states of the region were willing to enter into which new security relationships.

With regard to overflight quotas, the number of such overflights would be a function of what they were meant to look for. If they were to detect signs of a large military build-up which might precede a belligerent act, overflights would need to be sufficiently frequent as to prevent undetected mobilizations of troops. The actual number of flights, in turn, would be a function of the amount of time it takes each nation to mobilize its troops for war. Overflights would have to be allowed with sufficient frequency to prevent an undetected mobilization getting to a stage at which an offensive became possible before a neighbour had time to react.

Of course, several of the states in the region have various means of detecting large mobilizations. An Open Skies regime would tend to reinforce these means and to provide those states lacking them with some warning. For those states which possess such means, an Open Skies regime would provide a mechanism for gathering information which could be made public without compromising classified information collection capabilities.

CONCLUSION

While the specific technical problems of establishing an Open Skies regime in the region could be overcome through these and other measures, the deeper question of the place of such a regime in the region's developing security situation must be addressed. Open Skies is one of the more sophisticated and intrusive Confidence-building measures ever proposed. It took almost three years for the states of NATO and those which used to belong to Warsaw Treaty Organization to negotiate an agreement, despite the facts that they had a history of such negotiations, and that their relations were experiencing their most profound thaw in four decades. Given these facts, it would seem that Open Skies requires more than

just a new era of goodwill in order to prosper.

Nevertheless, the Middle East is an area in which the utility of aerial observations for confidence building has been proved on several occasions. If the states in the region are determined to achieve a new outlook on their relations with each other, a package of confidence building measures designed to increase transparency in the region would be a useful step. Indeed, the creation of a series of CBMs might well be a necessary forerunner to any success in the security field.

This paper has demonstrated that the recent Open Skies negotiations have identified the crucial issues which must be resolved if an Open Skies agreement is to be achieved in another region. The negotiations have also alluded to the ways in which these issues might play out in any attempt to create an Open Skies regime in another regional context. In the final section, the general lessons outlined in the first were applied to the question of whether the creation of an Open Skies regime is possible in the Middle East. It was argued that some of the concepts which have been developed in the current negotiations would have to be modified if negotiations were to be launched in the Middle East. It might not be possible or desirable for all of the states in the area to have overflight rights of each other, for example. Moreover, as Annex A demonstrates, the experience gained in peacekeeping operations to date would seem to indicate that the creation of a mechanism to undertake the overflights will be a crucial aspect of gaining permission to perform such flights in this region.

THE USE OF COOPERATIVE AERIAL SURVEILLANCE IN THE MIDDLE-EAST: LESSONS OF PAST EXPERIENCE

Though it is not widely known, aerial surveillance techniques have been used to alleviate tensions in the Middle East several times. The majority of these cases have involved the use of aircraft by various United Nations peacekeeping forces in the region. Aerial surveillance has also been used at least once to specifically monitor a cease-fire involving an agreement not to station military forces in certain sensitive areas. Moreover, aerial surveillance techniques will be used in monitoring Iraq's long-term compliance with its obligations under UN Security Council Resolution 687, which that country accepted to end the Persian Gulf War. This Annex will review these past experiences, and analyze their potential importance to the question of establishing an Open Skies regime in the region.

UNEF

The first instance of aerial surveillance being used in monitoring a cease-fire in the region began in 1956 and lasted until 1967. The United Nations Emergency Force (UNEF) was formed in response to the fighting which had attended the Suez Crisis of 1956. The Force was Mandated to occupy much of the Sinai desert in order to keep the Egyptian and the Israeli armies separated.

Initially, little use was made of aircraft beyond the transport/logistics role. As the Force's mission expanded, along with the territory it had to cover, aerial reconnaissance was instituted in the least accessible areas of the Sinai peninsula. Specifically, the Sinai coast "...from the Gulf of Aqaba to the straights of Tiran, a distance of some 187 miles, was kept under observation by UNEF air reconnaissance."[1] In addition, daily aerial patrols of the international frontier were instituted, and "any suspicious activity seen from the air could be checked by ground patrols dispatched from the outposts."[2]

Though little has been written about these patrols, or their place within the overall structure of the UNEF, it is known that by 1963 some five aircraft were in UN service, on loan from the Royal Canadian Air Force. The aircraft were primarily used to cover

---

[1] Security Council document A/5172, "Secretary-General's Progress Report, 22 August, 1962." Quoted in Higgins, R. United Nations Peacekeeping, 1946-1967: Documents and Commentary. Vol. I The Middle-East. (Oxford, Oxford University Press, 1970) p. 474. See also The Blue Helmets: A Review of United Nations Peacekeeping (New York, United Nations, 2nd ed. 1990) p. 73.

[2] ibid.

country considered too rugged for ground patrols. They had the secondary function of providing backup for ground patrols in other areas.[3]

A measure of the utility of the aerial patrols can be seen in the fact that, though the small aerial contingent (less than 100 personnel) consumed over a third of the operations budget (as opposed to the ground patrols which took 3,000 personnel), the UNEF resisted all efforts to cut-back on aerial operations.[4] By 1965 the pressure for cost reductions in UNEF was intense, owing to political pressures at the UN. A Survey Team appointed by the Secretary-General to study UNEF operations recommended that no cuts be made to the aerial contingent, but also ruled out an increase in the size of the contingent. It had been thought that such an increase might make possible further cuts to the more labour intensive ground patrols. In the Team's opinion, such a decrease in ground operations would have been unwise in that it would have reduced the UNEF's ability to mount a credible physical barrier to incursions into UNEF controlled territory.[5] This finding points out the fact that aerial patrols themselves are not sufficient to engender a feeling of security. Rather, they must be complimented by a ground presence of sufficient size and political authority to meet an incursion, or to investigate suspicious activity. The UNEF's aerial contingent remained stable until the Force was disbanded in 1967.

UNOGIL

The next example of aerial reconnaissance being used in the region came in Lebanon in 1958 in response to a domestic political crisis in that country. The issue was brought before the Security Council on 11 June, 1958. With the consent of both Lebanon and the United Arab Republic (UAR) the Council voted that day to dispatch urgently to Lebanon an observation group "...So as to ensure that there is no illegal infiltration of personnel or supply of arms or other materiel across the Lebanese borders."[6]

---

[3] See UN Security Council document A/5494, Report of the Secretary-General, 1963 para. 4.

[4] A/C.5/1001, Report of the Secretary-General to the Security Council on UNEF Operations, 2 December, 1963. Quoted in Higgins op cit pp. 310-312.

[5] A/C.5/1049, Survey of the UNEF: Report of the Secretary-General, 13 December, 1965. Quoted in Higgins, op cit, pp.313-323.

[6] More on the circumstances surrounding the creation of the Group may be found in Higgins op cit, pp. 535-547. See also Blue Berets, op cit, pp. 175-178.

Advance elements of the United Nations Observation Group in Lebanon (UNOGIL) began arriving the next day. By the end of the month operational procedures had been established, and there were almost 100 observers in the country. Their method of observation was to establish a network of observation posts at critical border points, backed up by regular patrols using jeeps, donkeys or on foot. The Group also had two light helicopters, and four light aircraft had been promised. All of the posts and patrols were to be connected by radio. In practice, however, the Observers experienced some difficulty in gaining access to certain border areas, either for patrols or for observation posts. The problem lay with the rival factions at work in the country, many of whom initially suspected UNOGIL of being little more than a tool of the Government.

Under these circumstances the aerial reconnaissance capabilities of UNOGIL became the only means of patrolling certain segments of the country. The Akkar Plain, which extended north from Tripoli and east to the Syrian border, was one such area. Day-time aerial missions revealed little of interest in the countryside. At night, however, convoys of vehicles were observed, and they soon learned to take evasive action when it became clear that aerial patrols were underway.[7] There was no evidence that these convoys were smuggling weapons into Lebanon, however. Indeed, they may well have been the result of local precautions against air strikes which the Government had launched in the area. Unfortunately, there was no way to categorically state that this was the case, as ground patrols were not allowed into the area. Nevertheless, the Group did report that the ground patrols which were able to operate in Tripoli "...paid particularly close attention to the arms at the disposal of the opposition forces in the Tripoli area. They have observed no change in the general character of these forces."[8]

Where aircraft and ground observers were able to operate in conjunction, they were a formidable combination. When radios were added to the jeeps and observation posts, enabling them to communicate directly with the aircraft, the operation was particularly effective.[9] Despite the fact that the local tribes in certain areas occasionally mistook the UN aircraft for those of the government, resulting in many incidents of UN aircraft being fired upon and a few of their being hit, the use of aerial and

---

[7] The cars dimmed their headlights, and a system of flashing lights was operated from hill tops whenever aircraft were in the region. See S/4069, Second report of UNOGIL, 30 July, 1958.

[8] ibid.

[9] See, for example, the glowing praise for this method in S/4085, Third Report of UNOGIL, 14 Aug., 1958, para. 7.

ground patrols was judged to a major part in the success of UNOGIL.

The Observer Group reported that there was no evidence of the infiltration which the Lebanese Government had charged against the United Arab Republic (UAR) at the end of the summer of 1958. This finding was disputed by the Lebanese, but their protestations were soon overtaken by other events. Specifically, a July coup in Iraq had destabilized the entire region prompting the US to send troops to Lebanon to prop-up the Government there. Though it had been established for a very different purpose, UNOGIL was used to assist in calming the situation in the country, and eventually assisted in the US withdrawal in October. UNOGIL itself was disbanded in November.

UNYOM

Aerial reconnaissance was next used in peacekeeping in the Middle East when a UN observation mission was sent to Yemen in 1963, following a coup in that country. The leaders of the coup, a group of army officers supported by Egypt, soon found themselves unable to hold the countryside, which was in the hands of those who supported the Yemeni Royal family and were backed by Saudi Arabia. The frustration of the new government soon lead it to threaten an expansion of the war into Saudi Arabia in an effort to cut the Royalist supply-lines. Given the prospect of a wider war, and the danger of outside interference to protect the Saudi oil fields, the Secretary-General, Mr. U Thant, began efforts to reach a solution.[10]

After some months of negotiation, Egypt and Saudi Arabia signed an agreement to suspend their activities in Yemen and allow the indigenous factions to resolve the dispute themselves. An integral part of the Disengagement Agreement was the creation of an Observer Mission to report on whether the Egyptian army was withdrawing from Yemen, as promised, and whether the Saudis had taken steps to prevent the Royalists using their territory as a base of operations.

Accordingly, the UN Yemen Observer Mission (UNYOM) was established. The Mission consisted of six observers based at the main Red Sea port through which the Egyptians had promised to withdraw their army, to observe the withdrawal; a Yugoslav reconnaissance unit of 114 men, who patrolled a 40 kilometre wide buffer zone along the northern Yemen-Saudi border; a headquarters unit of 28 civilian and military staff; and an aerial unit of 50 Canadians who serviced and flew two Caribou transports and six

---

[10] Background to the crisis may be found in Jones, P. "UNYOM: The Forgotten Mission" <u>Canadian Defence Quarterly</u>, vol. 22, no. 1, 1992.

Otter patrol aircraft.[11]

The utility of aerial surveillance was immediately obvious as many of the northern passes were too difficult for-the Yugoslavians to effectively patrol in their search for infiltrators. Using forward bases, the Canadians flew patrols of the mountain regions looking for groups that might be using the passes. The patrols were difficult as it was a local custom to travel only at night to avoid the intense heat. Tell-tale signs of movement could often be spotted the next day, however, and the Yugoslavs given direction to intercept the convoys. In addition to the difficulties encountered during the-patrols themselves constant heat and dust, lack of proper maintenance facilities and a heavy flight schedule were amongst the problems with which the air and ground crews struggled.[12]

By the time it was disbanded, in September of 1964, UNYOM had overseen a reduction in the scale of the fighting, and in the extent to which outside support was affecting life in Yemen. In the final analysis, however, the fighting did not stop until the Saudis and the Egyptians agreed to end their dispute in the region some years later.

UNEF II and the SFM

It was to be almost ten years from the end of UNYOM before a new peacekeeping venture involving aircraft was established in the Middle East. In the wake of the 1973 Arab-Israeli war, the need for an independent force to occupy the Sinai peninsula was as apparent as it had been after the Suez Crisis. The United States, which was particularly active in diplomatic efforts to end the conflict, was keen to have the UN play a role in the cease-fire. Accordingly, the ground was laid for the second United Nations Emergency Force (UNEF II), which was established on October 25, 1973.

To a great extent the operational procedures of the UNEF II were similar to those of the UNEF. The territory covered was much the same, and the basic procedure was also similar. In particular, the force relied on a series of observer posts, supplemented by roving patrols, both on the ground and in the air. As in the UNEF, these aerial patrols were especially useful in monitoring events in areas which were not easily accessible to ground based troops.[13]

---

[11] ibid.

[12] In addition to ibid, see Bowderey, R.M.L. "With the RCAF in Yemen" Roundel, v. 15, no. 1, 1963.

[13] See Blue Helmets, op cit, p. 96.

As the UNEF II was being established, the US undertook further measures to improve confidence in the region, at the request of the Egyptians and the Israelis. Though devoted at first to political steps, the process had evolved to the point that both sides were willing to consider more practical initiatives by 1975. In November of that year the US established the Sinai Support Mission (SSM).

The SSM, in turn, quickly established the Sinai Field Mission (SFM) to undertake a series of practical steps aimed at enhancing transparency in the Sinai. Working in support of the UNEF II, the SFM established a series of electronic early warning posts at the openings of two passes, which military experience had taught were essential to any attack through the Sinai.[14] The posts were designed, constructed and operated by a private US company under contract to the US Government. All of the stations were in the UNEF II controlled area, and the SFM cooperated with the UNEF II on a daily basis.

In addition to its ground based activities, the SFM undertook a series of aerial reconnaissance missions over the Sinai. These flights, which were conducted at the rate of about one a week, were performed by high altitude, reconnaissance aircraft such as the SR-71 and the U-2R. The resulting imagery was made available to both sides by the US.[15]

This seems to be the first time that an aerial reconnaissance operation in the region aimed at either peacekeeping or confidence-building used sensors. At least, it is the first such use of sensors which was expressly foreseen in an arrangement for such activities. Overflights conducted in the service of the UN might have used various methods of recording imagery, but, if they did so, it was not discussed in either their Mandates or their standard procedures. It could be that the two sides have to have a higher degree of confidence in each other and in the third party undertaking the flights in order to authorize the use of sensors than existed at the time any of the earlier missions were established.

With the signing of the Egyptian-Israeli Peace Treaty of March 26, 1979, the SFM moved into a new phase, along with the arrangements of peacekeeping in the Sinai generally. The three parties to the Treaty had expressed the hope that the UNEF II would

---

[14] The Gidi and Mitla passes. For more on the SFM see Mandell, B., <u>The Sinai Experience: Lessons in Multimethod Arms Control Verification and Risk Management</u> (Ottawa, External Affairs, Canada, 1987)

[15] <u>ibid</u>. For a more detailed description see Smithson, A. "Open Skies Ready for Takeoff" <u>op cit</u>.

continue to provide peacekeeping services in the region in order to assist in the Treaty's implementation. For a variety of political reasons, however, the consensus necessary to enable the Force to remain in existence was withheld when its Mandate came up for renewal on July 24, 1979. Prior to the signing of the Peace Treaty the US had assured the Egyptians and the Israelis that it would take steps to ensure that a suitable peacekeeping force would be created should UNEF II be withdrawn. This promise would lead to the creation of a private force in 1981 to replace the UNEF II, which would eventually become known as the Multinational Force and Observers (MFO).

The MFO

The MFO is charged with virtually all of the same functions and responsibilities of the UNEF II. In addition, the MFO assists the parties to the Peace Treaty in the fulfilment of their responsibilities in such areas as transferring land from one to the other. As in the UNEF II, a series of observation posts are operated throughout the Sinai, together with roving patrols and aerial reconnaissance overflights. Most of the MFO's troops are from the US, but they were joined by troops of nine other countries in the first instance. The aerial contingent of the MFO was supplied by Australia and New Zealand, who operated a joint helicopter unit from the Force's creation until March 31, 1986. After their withdrawal, Canada supplied a helicopter unit consisting of nine CH-135 Twin Huey helicopters, which operated until April 1990, when the US took over the aerial role. The aerial unit provides logistic support to the observation posts, medical evacuation services and observation and verification overflights.[16]

UNIIMOG

Two recently established Mid-East peacekeeping forces also use aerial surveillance in the performance of their duties. The United Nations Iran-Iraq Military Observer Group (UNIIMOG) was created in May, 1988 to oversee a cease-fire in the bloody, decade long Iran-Iraq war. Initial plans had called for UNIIMOG to use both fixed-wing aircraft for ferrying supplies and personnel back and forth across the border, and "...a squadron of United Nations helicopters for observation of the no man's land and the cease-fire lines."[17] Unfortunately, the Iranians were unwilling to allow UNIIMOG to acquire the helicopters as they feared sensitive information from aerial patrols might fall into Iraqi hands. The two sides were

---

[16] See Smithson ibid. See also Dabros, Capt. M.R., "The Multinational Force and Observers: A New Experience for Canada" Canadian Defence Quarterly Autumn, 1986, pp. 32-35.

See The Blue Helmets, op cit, p. 331. [17]

able to reach a compromise with the UN, and agreed each to place six helicopters at the disposal of UNIIMOG for short-notice overflights over their own territory carrying UN observers. In practice, the aircraft did not always respond to requests for overflights in a timely manner. In a few cases, requests for overflights have been ignored completely. The fixed-wing transport aircraft at UNIIMOG's service were also limited in terms of where they could fly.[18]

UNIKOM

Created even more recently, the United Nations Kuwait Observer Mission (UNIKOM) is charged with monitoring Kuwait's border with Iraq. In addition to ground patrols, the Mission is assisting Kuwait in such areas as the removal of mines and other war debris from its territory. The air unit of UNIKOM consists of six Chilean Bell 205 helicopters and 2 SWISS V/STOL aircraft. In addition to their transport and logistics functions, these aircraft engage in observation patrols of the Iraq-Kuwait border area.

UNSCOM

A final example of the use of aerial monitoring for observation in the Middle East is in the process of being created. When the Persian Gulf war ended, Iraq accepted a UN Security Council resolution[19] which called upon it to disband all of its nuclear and chemical weapons research programmes and place the materials under the supervision of the UN for destruction. The resolution called for the creation of a Special Commission to oversee this process, and gave the Commission wide powers for on-site inspections. Following the destruction of all of Iraq's stocks of chemical and nuclear materials, the Commission is to engage in long-term monitoring of Iraq's promise to never again acquire these materials.

The UN Special Commission (UNSCOM) has made extensive use of aerial surveillance techniques in both the destruction and future compliance phases of its work. Helicopters have been used to transport UNSCOM inspectors to sensitive sites in Iraq and to observe those sites from the air.[20] In addition, a U-2

---

[18] ibid. See also Smithson, A., and Krepon, M. "Strengthening the Chemical Weapons Convention Through Aerial Inspections" Occasional Paper Number 4; The Henry L. Stimson Centre (Washington, Henry L. Stimson Centre, April, 1991) p. 31.

[19] UN Security Council Resolution 687, 3 April, 1991.

[20] The Iraqis did try to prevent the use of helicopters for this purpose, but finally bowed to UN pressure in October of 1991. See Smithson, "Open Skies Ready for Takeoff" op cit.

reconnaissance aircraft has been operated by the United States on behalf of the commission.[21]

Of course, it must be remembered that the situation in Iraq is quite different to any of the other examples which have been discussed in this Annex. In every other case the participants in the aerial monitoring regime gave their permission for overflights to take place as a part of a larger peacekeeping force. Moreover, they were active and free participants in the process which established the overflight regime. In the case of Iraq, however, the Special Commission was forced upon that nation as the result of a conflict which it had lost. Moreover, Iraq was not part of the political process which established the Commission, and has not been extensively consulted as to the Commission's methods. Thus, although the Commission experience is relevant to the establishment of an Open Skies regime in the region in some respects, it is not relevant in the sense that any regime must be established through the active permission and participation of the states over which its aircraft will eventually fly.

---

[21] ibid.

ANNEX B

TYPICAL AIRBORNE REMOTE SENSING SYSTEM COSTS[1]

	ANNUAL LEASE ESTIMATES[2]	PURCHASE ESTIMATES[3]
Sensors		
Synthetic Aperture Radar (SAR)	4,500,000	7,100,000
Forward Looking Infrared (FLIR)	500,000	800,000
Infrared Linescanner	400,000	600,000
Photographic/Electro-Optical System	200,000	300,000
Aircraft		
Two aircraft platforms, one twin engine, one single engine including parts and spares	2,000,000	3,900,000
Training	19,000	200,000
Staffing	2,500,000	2,500,000/yr.
Carrying costs	- -	1,700,000
TOTAL	**10,119,000**	**17,100,000**

---

[1] Taken from, Canada, <u>Overhead Remote Sensing for United Nations Peacekeeping</u>, April, 1990, p. 45. (All costs in 1990 US dollars)

[2] These costs include all associated costs to provide a complete turn-key service for a one year airborne reconnaissance programme including 300 missions for a total of 200 flying hours.

[3] These costs do not include costs for maintenance, depreciation and operations.

ANNEX C
BIBLIOGRAPHY

Banner, A.V., Young, A.J., and Hall, K.W. <u>Aerial Reconnaissance for Verification of Arms Limitation Agreements: An Introduction</u> (New York; United Nations, 1990)

Barrett, J. "CFE Aerial Inspection and Open Skies" in Chestnutt, H. and S. Mataija <u>Towards Helsinki 1992: Arms Control in Europe and the Verification Process</u> (Toronto; York University, 1991)

Hawes, J.H. "Open Skies: From Idea to Negotiation" <u>NATO Review</u> vol. 38, no. 2, April, 1990

Hawes, J.H. "Open Skies: Beyond Vancouver to Vladivostok" Henry L. Stimson Centre, Washington, DC, December, 1992

Jones, P.L. "Open Skies: A Review of Events in 1992" <u>Verification Report 1993: Yearbook on Arms Control and Environmental Agreements</u> ed. Dr. J.B. Poole & R. Guthrie (London; VERTIC, forthcoming)

Jones, P.L. "Open Skies: A New Era of Transparency" <u>Arms Control Today</u> May, 1992

Jones, P.L. "Open Skies: Multilateral Negotiations in 1991" <u>Verification Report 1992; Yearbook on Arms Control and Environmental Agreements</u> ed. Dr. J.B. Poole & R. Guthrie (London; VERTIC, 1992)

Jones, P.L. "Open Skies: A Review of Events at Ottawa and Budapest" <u>Verification Report 1991: Yearbook on Arms Control and Environmental Agreements</u> ed. Dr. J.B. Poole & R. Guthrie (London; VERTIC and the Apex Press, 1991)

Jones, P.L. "CFE Aerial Inspections and Open Skies: A Comparison" <u>Verifying Conventional Force Reductions in Europe: CFE I and Beyond</u> ed. M. Slack & H. Chestnutt (Toronto; York University, 1991)

Krepon, M. & Smithson A.E. (eds.) <u>Open Skies, Arms Control and Cooperative Security</u> (New York; St. Martin's Press, 1992)

Lysyshyn, R. "Open Skies Ahead" <u>NATO Review</u> vol. 40, no. 1, Feb, 1992

Rostow, W.W., <u>Open Skies: President Eisenhower's Proposal of May 21, 1955</u> (Austin, Texas A&M Press, 19??)

Slack, M. & H. Chestnutt (eds.) <u>Open Skies: Technical, Organizational, Legal, and Political Aspects</u> (Toronto; York University, 1990)

Smithson, A.E. "Open Skies Ready for Takeoff" The Bulletin of the Atomic Scientists vol. 48, no. 1, Jan/Feb, 1992

Tucker, J.B. "Back to the Future: The Open Skies Talks" Arms Control Today October, 1990

United States Congress, Office of Technology Assessment, Verification Technologies: Cooperative Aerial Surveillance in International Agreements (Washington, U.S. Government Printing Office, 1991)